

THURSDAY, JULY 19, 1917.

## ACROMEGALY AND THE EXTINCTION OF SPECIES.

*Théorie de la Contre-évolution, ou Dégénérescence par l'Hérédité pathologique.* Par le Dr. René Larger. Pp. xiv+405. (Paris: Félix Alcan, 1917.) Price 7 francs.

IN 1885, when Dr. Pierre Marie, who has just succeeded the late Prof. Déjerine in the chair of clinical neurology in the University of Paris, was the youthful director of the laboratory attached to La Salpêtrière, he was impressed by the similarity of the condition and symptoms presented by two women who had entered the great nerve hospital as patients. In both women a disastrous change had been wrought in their physical appearance and well-being; in the course of a year or two their faces had become big and ugly, so that even their relatives and friends failed to recognise them; their hands and feet grew in size and changed in shape, although the normal period for growth was long past. Dr. Marie perceived that the morbid state presented by these two women was identical, and that it was a diseased condition which, up to that time, had passed unrecognised. He published an account of his two patients,<sup>1</sup> giving the name "acromegaly" to the condition, because of the enlargement of the extreme parts of the body—the hands, feet, and face.

The original description was no sooner published than cases began to be reported by clinicians from every part of the world. Hundreds of cases are now on record. Very soon it was recognised that nearly all giants, besides suffering from a generalised overgrowth, were also the subjects of this peculiar, or acromegalic, kind of growth. As a result of thirty-two years of observation and experiment it may be regarded as now certain that gigantism, acromegaly, and a number of other conditions are directly related to a disordered state of the pituitary gland—an organ so minute that it forms only  $\frac{1}{150000}$  part of an adult human body.

In his theory of "contre-évolution" Dr. René Larger has developed the idea that gigantism and acromegaly may attack not an individual here and there as amongst mankind, but may break out in a whole species or genus, so that all the individuals become affected, at first with a moderate degree of acromegaly, but finally with an unrestrained pitch of gigantism, in which condition the whole race or family finally perishes. He is of opinion that his theory explains many facts which now seem obscure to those who are studying living and extinct forms of animal life. He selects his examples from the great dinosaurians, the living and extinct great birds, and whales, elephants, and anthropoids, as mammalian representatives.

Although we are willing to admit that Dr. Larger is the first to apply in a systematic manner certain medical concepts to problems concerning the evolution and extinction of animal forms, and that he has rendered a service to biologists in doing

so, we do not think that either his confrères in France or his colleagues abroad will agree that he has done justice to the present state of our knowledge regarding the growth of the human body. Dr. Larger regards the enlarged or disordered state of the pituitary gland, which is invariably found in the subjects of gigantism and of acromegaly, as merely one of many manifestations of the disease, whereas the prevailing and best-founded opinion is that a direct and causal connection exists between the disorder of the pituitary gland and the disturbance of growth. The pituitary is, however, only one element in a series of growth-controlling glands. In the mechanism of growth and of adaptation of the body to its surroundings the genital glands, the adrenal gland, the thyroid, the pancreatic, and the pituitary glands, and many minor bodies, take a part; betw en them they determine the shape given to the body, and the form given apparently depends on the dominance of one or more of the members of this growth-controlling endocrine mechanism.

When in his Croonian lectures of 1905 Prof. Starling gave the name of "hormones" to the "chemical messengers" sent out by one organ of the body to control the action or growth of any other organ or part of the body, he and Prof. Bayliss had a very clear appreciation of the important part hormones were to play in all biological investigation and speculation. They realised that they were dealing with the most primitive mechanism for co-ordinating the functions and systems of a composite animal body—one which must have ante-dated the appearance of a nervous system, and could serve to link the tissues of the body to the germ plasma of the unborn seed. We cannot say that zoologists have shown any undue haste in applying and testing the theory of hormones.

In 1908 Mr. J. T. Cunningham (Proc. Zool. Soc., p. 434) applied the theory of hormones to explain inheritance; in his presidential address to the Section of Zoology of the British Association at Sheffield in 1910 Prof. C. C. Bourne clearly recognised the rôle of hormones in the evolution of new forms; in recent writings by Prof. A. Dendy and by Prof. E. W. MacBride it can be seen that they, too, have grasped the importance of hormones to zoologists. It is this wider concept of hormones that we should prefer to see applied to the problems which Dr. Larger has dealt with in his theory of "contre-évolution," but, even if we cannot get the whole loaf, we must be thankful to him for a piece of real bread.

A. KEITH.

## ELECTROTECHNICAL BOOKS.

- (1) *The Range of Electric Searchlight Projectors.* By Jean Rey. Translated by J. H. Johnson. Pp. xiv+152. (London: Constable and Co., Ltd., 1917.) Price 12s. 6d. net.
- (2) *The Calculation and Measurement of Inductance and Capacity.* By W. H. Nottage. Pp. 137. (London: The Wireless Press, Ltd.) Price 2s. 6d.
- (3) *Electric and Magnetic Measurements.* By